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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/567,059	02/01/2006	Karl S. Booksh	06-077-US	4840

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EXAMINER

CHIN, CHRISTOPHER L

ART UNIT	PAPER NUMBER
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1641

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/567,059	<b>Applicant(s)</b> BOOKSH ET AL.	
	<b>Examiner</b> Christopher L. Chin	<b>Art Unit</b> 1641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/1/06</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. Claims 1-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is vague. Steps (d)-(j) are confusing in just reciting "SPR" since method steps cannot be performed on an optical phenomenon, such as surface plasmon resonance. The term --biosensor-- should be inserted after each instance of "SPR" in steps (d)-(j).

Claim 2 is vague in reciting an abbreviation/acronym, OPSS-PEG-NHS, without defining it with generic terminology.

Claims 7 and 15 are vague in reciting an abbreviation/acronym, NSE, without defining it with generic terminology.

Claims 9 and 17 are vague because they appear to be directed to a method of detection, "...whereby a low value is indicative of spinal motor atrophy" but claims 1 and 10, from which claims 9 and 17 respectively depend from, are directed to a methods of coating a SPR biosensor.

Claim 10 is vague in reciting abbreviations/acronyms, MHA, NHS-MHA, and HT, without defining them with generic terminology.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 10 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Everhart et al.

Everhart et al (US Patent 6,180,288 B1) discloses a method for coating a gold coated Mylar structure. The gold layer is coated with a self assembled monolayer (SAM) comprising 16-mercaptohexadecanoic acid (MHA) and hexadecanethiol (HT) (Example 3 in col. 20). Specific binding reagents such as antibodies can be attached to the SAM layer (col. 8, line 59-67).

While Everhart et al does not characterize the gold/Mylar structure as a SPR biosensor, the gold/Mylar structure is considered a SPR biosensor. The Mylar layer is optically transparent and in combination with the gold layer will generate a surface plasmon resonance (SPR) effect.

4. Claims 1 and 3-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Masson et al.

Masson et al (US 2007/0286546 A1) discloses a method for coating a SPR biosensor. A gold coated fiber is immersed overnight in 0.005M 11-mercaptoundecanol. The fiber is then washed, dried, and reacted with a mixture of epichlorhydrin, diglyme, and NaOH to give a reactive epoxide terminal. The epoxide can then be reacted with ethanolamine followed by reaction with 4,4-azobis(4-cyano-valeric acid) in the presence of an EDC/NHS mixture. Probe molecules can be covalently linked to the coated fiber [paragraph 0052]. The sensor can have antibodies specific for myoglobin or cardiac Troponin I [paragraph 0060-0063].

US 2007/0286546 A1 claims priority back to provisional application No. 60/454,173 which has a filing date of March 11, 2003.

The applied reference has common inventors, Karl S. Booksh and Jean-Francois Masson, with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Everhart et al.

See above for the teachings of Everhart et al.

Everhart et al differs from the instant invention in failing to teach using antibodies for detection of the specific antigens recited in claims 12-17.

However, the production of antibodies for antigens is well known in the art. It would have been obvious to one of ordinary skill in the art to produce antibodies to the specific antigens recited in claims 12-17 for use in the biosensor of Everhart et al because the choice of antibodies to be used in Everhart et al is dictated by the analyte that is to be detected. One would use the appropriate antibody in Everhart et al for the specific antigen that is to be detected.

### ***Conclusion***


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher L. Chin whose telephone number is (571) 272-0815. The examiner can normally be reached on Monday-Thursday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on (571) 272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Christopher L. Chin  
Primary Examiner  
Art Unit 1641

1/4/08